

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A photomultiplier tube comprising:
 - a faceplate made from glass having a surface;
 - a side tube made from glass and having a hollow shape extending in a tube axial direction which is substantially perpendicular to the faceplate, the side tube being joined to of the faceplate;
 - a photocathode formed on the surface of the faceplate in the side tube to emit a photoelectron in response to light incident on the faceplate;
 - an electron multiplying portion provided in the side tube for multiplying the photoelectron emitted from the photocathode; and
 - an anode provided inside the side tube for receiving an electron emitted from the electron multiplying portion, wherein
 - the electron multiplying portion includes:
 - a first dynode placed at a position in the tube axial direction for multiplying the photoelectron impinging thereon from the photocathode to emit a secondary electron, the first dynode having a proximal end which is close to the anode;
 - a second dynode placed at a substantially same position as the position of the first dynode in the tube axial direction, the second dynode multiplying the secondary electrons impinging thereon from the first dynode to emit a secondary electron, the second dynode having a proximal end which is close to the anode;
 - a third dynode provided on an anode side of the first and second dynodes in the tube axial direction for multiplying the secondary electrons impinging thereon from the second dynode to emit secondary electrons; and

a focusing electrode having:

a flat plate provided between the second and third dynodes, the flat plate having an aperture that enables the third dynode to face the second dynode;

a first screen provided on a first dynode side of the aperture, the first screen extending across the proximal end of the first dynode toward the photocathode; and

a second screen provided on a second dynode side of the aperture, the second screen extending towards the photocathode so that a front end thereof is positioned above between the proximal end of the second dynode and the photocathode, the first screen and second screen being located between the proximal end of the first dynode and the proximal end of the second dynode in a direction perpendicular to the tube axial direction.

2. (Original) The photomultiplier tube according to Claim 1, wherein the focusing electrode is maintained at a potential which is higher than a potential of the second dynode and lower than a potential of the third dynode.

3. (Currently Amended) A photomultiplier tube comprising:

a faceplate made from glass having a surface;

a side tube made from glass and having a hollow shape extending in a tube axial direction which is substantially perpendicular to the faceplate, the side tube being joined to of the faceplate;

a photocathode formed on the surface of the faceplate in the side tube to emit a photoelectron in response to light incident on the faceplate;

an electron multiplying portion provided in the side tube for multiplying the photoelectron emitted from the photocathode; and

an anode provided inside the side tube for receiving an electron emitted from the electron multiplying portion, wherein

the electron multiplying portion includes:

a first dynode placed at a position in the tube axial direction for multiplying the photoelectron impinging thereon from the photocathode to emit a secondary electron, the first dynode having a proximal end which is close to the anode;

a second dynode placed at a substantially same position as the position of the first dynode in the tube axial direction, the second dynode multiplying the secondary electrons impinging thereon from the first dynode to emit a secondary electron, the second dynode having a proximal end which is close to the anode;

a third dynode provided on an anode side of the first and second dynodes in the tube axial direction for multiplying the secondary electrons impinging thereon from the second dynode to emit secondary electrons; and

a focusing electrode having:

a first screen formed on a proximal end side of the first dynode and extending across the proximal end of the first dynode toward the photocathode;

a flat plate having a cut-away portion that enables the third dynode to face the second dynode; and

a second screen provided at the cut-away portion on a proximal end side of the second dynode, the second screen extending across the proximal end of the second dynode towards the photocathode, the focusing electrode being secured between the second and third dynodes, thereby defining a space extending from the first dynode to the third dynode, the first screen and the second screen being located between the proximal end of the first dynode and the proximal end of the second dynode in a direction perpendicular to the tube axial direction.

4. (Original) The photomultiplier tube according to Claim 3, wherein the focusing electrode is maintained at a potential which is higher than a potential of the second dynode and lower than a potential of the third dynode.

5. (Currently Amended) A photomultiplier tube comprising:
 - a faceplate made from glass having a surface;
 - a side tube made from glass and having a hollow shape extending in a tube axial direction which is substantially perpendicular to the faceplate, the side tube being joined to of the faceplate;
 - a photocathode formed on the surface of the faceplate in the side tube to emit a photoelectron in response to light incident on the faceplate;
 - an electron multiplying portion provided in the side tube for multiplying the photoelectron emitted from the photocathode; and
 - an anode provided inside the side tube for receiving an electron emitted from the electron multiplying portion, wherein
 - the electron multiplying portion includes:
 - a first dynode placed at a position in the tube axial direction for multiplying the photoelectron impinging thereon from the photocathode to emit a secondary electron, the first dynode having a proximal end which is close to the anode;
 - a second dynode placed at a substantially same position as the position of the first dynode in the tube axial direction, the second dynode multiplying the secondary electrons impinging thereon from the first dynode to emit a secondary electron, the second dynode having a proximal end which is close to the anode;
 - a third dynode provided on an anode side of the first and second dynodes in the tube axial direction for multiplying the secondary electrons impinging thereon from the second dynode to emit secondary electrons; and
 - a focusing electrode having:
 - a first screen formed on a proximal end side of the first dynode and extending across the proximal end of the first dynode toward the photocathode;

a flat plate provided between the second and third dynodes, the flat plate having a first cut-away portion that enables the third dynode to face the second dynode and a second cut-away portion formed between the first and third dynodes; and

a second screen provided on a second dynode side of the first cut-away portion and extending across the proximal end of the second dynode towards the photocathode, the first screen and the second screen being located between the proximal end of the first dynode and the proximal end of the second dynode in a direction perpendicular to the tube axial direction.

6. (Original) The photomultiplier tube according to Claim 5, wherein the focusing electrode is maintained at a potential that is higher than a potential of the second dynode and lower than a potential of the third dynode.

7. (Currently Amended) A photomultiplier tube comprising:

- a faceplate made from glass having a surface;
- a side tube made from glass and having a hollow shape extending in a tube axial direction which is substantially perpendicular to the faceplate, the side tube being joined to of the faceplate;
- a photocathode formed on the surface of the faceplate in the side tube to emit a photoelectron in response to light incident on the faceplate;
- an electron multiplying portion provided in the side tube for multiplying the photoelectron emitted from the photocathode; and
- an anode provided inside the side tube for receiving an electron emitted from the electron multiplying portion, wherein
- the electron multiplying portion includes:

a first dynode placed at a position in the tube axial direction for multiplying the photoelectron impinging thereon from the photocathode to emit a secondary electron, the first dynode having a proximal end which is close to the anode;

a second dynode placed at a substantially same position as the position of the first dynode in the tube axial direction, the second dynode multiplying the secondary electrons impinging thereon from the first dynode to emit a secondary electron, the second dynode having a proximal end which is close to the anode;

a third dynode provided on an anode side of the first and second dynodes in the tube axial direction for multiplying the secondary electrons impinging thereon from the second dynode to emit secondary electrons; and

a first focusing electrode provided on an anode side of the first dynode and on a photocathode side of the third dynode; and

a second focusing electrode provided on an anode side of the second dynode and on a photocathode side of the third dynode; and wherein

an electron multiplied by the second dynode travels in a space between the first and second focusing electrodes to impinge on the third dynode, the first focusing electrode and the second focusing electrode being located between the proximal end of the first dynode and the proximal end of the second dynode in a direction perpendicular to the tube axial direction.

8. (Original) The photomultiplier tube according to Claim 7, wherein the first focusing electrode is integral with the second focusing electrode.